

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1 (Canceled):

Claim 2 (Currently Amended): A software/hardware language model conversion method for converting a first code described in a software description language to a second code described in a hardware description language, the method comprising:

converting the first code to the second code;

detecting from the second code a plurality of processes that correspond to a plurality of parallel procedures in the first code;

identifying which ones of the plurality of processes assign values to an identical shared variable; and

generating a value solving process for the detected processes corresponding to the parallel procedures, wherein the value solving process includes pairs of a data signal and an assignment timing signal from each of the detected processes as an input, and includes any one of data signals corresponding to a change of the assignment timing signal, as an output,

~~The method according to claim 1,~~ wherein said second code includes a component hierarchical structure, wherein said value solving process includes a first value solving process which is generated at higher level in the component hierarchical structure and a second value solving process which is generated at lower level than that of the first value solving process, and the method further includes:

connecting the generated first and second value solving processes to each other.

Claim 3 (Original): The method according to claim 2, wherein the second value solving process outputs an assignment timing signal which is changed when a value of the data signal is updated to said first value solving process connected to the second value solving process, in addition to said data signal.

Claim 4 (Original): The method according to claim 2, further comprising:
connecting an input to the second value solving process to an input to the first value solving process; and
removing the second value solving process.

Claim 5 (Canceled).

Claim 6 (Currently Amended): A software/hardware language model conversion method for converting a first code described in a software description language to a second code described in a hardware description language, the method comprising:
detecting from the first code a plurality of processes that correspond to a plurality of parallel procedures in the second code;
identifying which ones of the plurality of parallel procedures assigns values to an identical shared variable;
converting the first code to the second code; and
generating a value solving process for the detected processes corresponding to the parallel procedures, wherein the value solving process includes pairs of a data signal and an assignment timing signal from each of the detected processes as an input, and

includes any one of data signals corresponding to a change of the assignment timing signal, as an output.

~~The method according to claim 5~~, wherein said second code includes a component hierarchical structure, wherein said value solving process includes a first value solving process which is generated at higher level in the component hierarchical structure and a second value solving process which is generated at lower level than that of the first value solving process, and the method further includes:

connecting the generated first and second value solving processes to each other.

Claim 7 (Original): The method according to claim 6, wherein the second value solving process outputs an assignment timing signal which is changed when a value of the data signal is updated to said first value solving process connected to the second value solving process, in addition to said data signal.

Claim 8 (Original): The method according to claim 6, further comprising:
connecting an input to the second value solving process to an input to the first value solving process; and
removing the second value solving process.

Claim 9 (Canceled):

Claim 10 (Presently Amended): A software/hardware language model conversion method for converting a first code described in a software description language to a second code described in a hardware description language, the method comprising:

converting the first code to the second code;

detecting from the second code a plurality of processes that correspond to a plurality of parallel procedures in the first code;

identifying which ones of the plurality of processes assign values to an identical shared variable; and

generating a procedure call solving process which exclusively controls a call operation to the parallel procedure by the detected process, wherein the procedure call solving process includes pairs of a call timing signal and an argument data signal, from each of the detected processes, as an input, and includes terminal signal and a return value signal, as an output to the processes, from the called procedure,

~~The method according to claim 9,~~ wherein said second code includes a component hierarchical structure, wherein said procedure call solving process includes a first procedure call solving process which is generated at higher level in the component hierarchical structure and a second procedure call solving process which is generated at lower level than that of the first procedure call solving process, and the method further includes:

connecting the generated first and second procedure call solving processes each other.

Claim 11 (Original): The method according to Claim 10, further comprising:

connecting an input to the second procedure call solving process to an input to the first procedure call solving process; and

removing the second procedure call solving process.

Claim 12 (Canceled):

Claim 13 (Currently Amended): A software/hardware language model conversion method for converting a first code described in a software description language to a second code described in a hardware description language, the method comprising:

detecting from the first code a plurality of procedures that correspond to a plurality of parallel procedures in the second code;

identifying which ones of the plurality of parallel procedures assign values to an identical shared variable;

converting the first code to the second code; and

generating a procedure call solving process which exclusively controls an operation of a plurality of processes corresponding to the detected procedures, wherein the procedure call solving process includes pairs of a call timing signal and an argument data signal from each of the detected processes, as an input, and includes a terminal signal and a return value signal, as an output to the processes, from the called procedure.

~~The method according to claim 12,~~ wherein said second code includes a component hierarchical structure, wherein said procedure call solving process includes a first procedure call solving process which is generated at higher level in the component hierarchical structure and a second procedure call solving process which is generated at lower level than that of the first procedure call solving process, and the method further includes:

connecting the generated first and second procedure call solving processes to each other.

Claim 14 (Original): The method according to claim 13, further comprising:
connecting an input to the second procedure call solving process to an input to the
first procedure call solving process; and
removing the second procedure call solving process.

Claim 15 (Canceled):

Claim 16 (Canceled):

Claim 17 (Canceled):

Claim 18 (Currently Amended): A computer program product comprising:
a computer storage medium and a computer program code mechanism embedded in
the computer storage medium for causing a computer to convert a first code described in a
software description language to a second code described in a hardware description language,
the computer code mechanism comprising:
a computer code device configured to convert the first code to the second code;
a computer code device configured to detect from the second code a plurality of
processes that correspond to a plurality of parallel procedures in the first code;
a computer code device configured to identity which ones of the plurality of processes
assign values to an identical shared variable; and
a computer code device configured to generate a value solving process for the
detected processes corresponding to the parallel procedures, wherein the value solving
process includes pairs of a data signal and an assignment timing signal from each of the

detected processes as an input, and includes any one of data signals corresponding to a change of the assignment timing signal, as an output,

~~The computer program product according to claim 17,~~ wherein said second code includes a component hierarchical structure, wherein said value solving process includes a first value solving process which is generated at higher level in the component hierarchical structure and a second value solving process which is generated at lower level than that of the first value solving process, and the method further includes:

a computer code device configured to connect the generated first and second value solving processes to each other.

Claim 19 (Original): The computer program product according to claim 18, wherein the second value solving process outputs an assignment timing signal which is changed when a value of the data signal is updated to said first value solving process connected to the second value solving process, in addition to said data signal.

Claim 20 (Original): The computer program product according to claim 18, further comprising:

a computer code device configured to connect an input to the second value solving process to an input to the first value solving process; and

a computer code device configured to remove the second value solving process.

Claim 21 (Canceled):

Claim 22 (Currently Amended): A computer program product comprising:

a computer storage medium and a computer program code mechanism embedded in the computer storage medium for causing a computer to convert a first code described in a software description language to a second code described in a hardware description language, the computer code mechanism comprising:

a computer code device configured to detect from the first code a plurality of processes that correspond to a plurality of parallel procedures in the second code;

a computer code device configured to identify which ones of the plurality of processes assign values to an identical shared variable;

a computer code device configured to convert the first code to the second code; and

a computer code device configured to generate a value solving process for the detected processes corresponding to the parallel procedures, wherein the value solving process includes pairs of a data signal and an assignment timing signal from each of the detected processes as an input, and includes any one of data signals corresponding to a change of the assignment timing signal, as an output,

~~The computer program product according to claim 21,~~ wherein said second code includes a component hierarchical structure, wherein said value solving process includes a first value solving process which is generated at higher level in the component hierarchical structure and a second value solving process which is generated at lower level than that of the first value solving process, and the computer program product further includes:

a computer code device configured to connect the generated first and second value solving processes to each other.

Claim 23 (Original): The computer program product according to claim 22, wherein the second value solving process outputs an assignment timing signal which is changed when a value of the data signal is updated to said first value solving process connected to the second value solving process, in addition to said data signal.

Claim 24 (Original): The computer program product according to claim 22, further comprising:

a computer code device configured to connect an input to the second value solving process to an input to the first value solving process; and

a computer code device configured to remove the second value solving process.

Claim 25 (Canceled):

Claim 26 (Currently Amended): A computer program product comprising:

a computer storage medium and a computer program code mechanism embedded in the computer storage medium for causing a computer to convert a first code described in a software description language to a second code described in a hardware description language, the computer code mechanism comprising:

a computer code device configured to convert the first code to the second code

a computer code device configured to detect from the second code a plurality of processes that correspond to a plurality of procedures in the first code;

a computer code device configured to identify which ones of the plurality of processes assign values to an identical shared variable; and

a computer code device configured to generate a procedure call solving process which exclusive controls a call operation to the parallel procedure by the detected process, wherein the procedure call solving process includes pairs of an a call timing signal and an argument data signal, from each of the detected processes, as an input, and includes terminal signal and a return value signal, as an output to the processes, from the called procedure,

~~The computer program product according to claim 25,~~ wherein said second code includes a component hierarchical structure, wherein said procedure call solving process includes a first procedure call solving process which is generated at higher level in the component hierarchical structure and a second procedure call solving process which is generated at lower level than that of the first procedure call solving process, and the computer program product further includes:

a computer code device configured to connect the generated first and second procedure call solving processes to each other.

Claim 27 (Original): The computer program product according to claim 26, further comprising:

a computer code device configured to connect an input to the second procedure call solving process to an input to the first procedure call solving process; and

a computer code device configured to remove the second procedure call solving process.

Claim 28 (Canceled):

Claim 29 (Original): A computer program product comprising:

a computer storage medium and a computer program code mechanism embedded in the computer storage medium for causing a computer to convert a first code described in a software description language to a second code described in a hardware description language, the computer code mechanism comprising:

a computer code device configured to detect from the first code a plurality of procedures that correspond to a plurality of parallel procedures in the second code;

a computer code device configured to identify which ones of the plurality of procedures assign values to an identical shared variable;

a computer code device configured to convert the first code to the second code; and

a computer code device configured to generate a procedure call solving process which exclusive controls an operation of a plurality of processes corresponding to the detected procedures, wherein the procedure call solving process includes pairs of a call timing signal and an argument data signal from each of the detected processes, as an input, and includes a terminal signal and a return value signal, as an output to the processes, from the called procedure,

~~The computer program product according to claim 28,~~ wherein said second code includes a component hierarchical structure, wherein said procedure call solving process includes a first procedure call solving process which is generated at higher level in the component hierarchical structure and a second procedure call solving process which is generated at lower level than that of the first procedure call solving process, and the computer program product further includes:

a computer code device configured to connect the generated first and second procedure call solving processes to each other.

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Claim 30 (Original): The computer program product according to claim 29, further comprising:

a computer code device configured to connect an input to the second procedure call solving process to an input to the first procedure call solving process; and

a computer code device configured to remove the second procedure call solving process.

Claim 31 (Canceled):

Claim 32 (Canceled):